



United States Environmental Protection Agency
Region 7
Enforcement and Compliance Assurance Division

Air Branch

**Air Branch Inspection Report
Unannounced Partial Compliance Evaluation**

Elantas PDG, Inc.
5200 N Second Street
St. Louis, MO 63147
FRS# 110000441889

Inspection Date(s):
September 07, 2023

Christopher Appier, Inspector, ECAD, Air Branch

Authorized for Release by:

Tracey Casburn, Air Branch Chief, ECAD

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**This Contents page shows all the sections contained in this report
and provides a clear indication of the end of this report.**

INSPECTION OVERVIEW

INSPECTION OBJECTIVE

The objective of the partial compliance evaluation (PCE) inspection was to determine compliance of the facility with the Clean Air Act (CAA), the Part 70 Permit to Operate (Permit Number OP2013-025) issued by the Missouri Department of Natural Resources (the permit), and to identify possible sources of hazardous air pollutant (HAPs) and volatile organic compound (VOC) emissions. The facility was identified as a possible source of further investigation based on VOC emissions identified during the U.S. Environmental Protection Agency's (EPA) geospatial measurement of air pollution screening conducted between September 12-15, 2022, in the St. Louis area. The inspection was part of the EPA's Creating Cleaner Air for Communities National Enforcement Compliance Initiative.

The inspection was conducted by Christopher Appier, EPA Region 7, Enforcement and Compliance Assurance Division, Air Branch.

FACILITY CONTACT INFORMATION

Table 1 lists the primary facility contacts.

Table 1. FACILITY CONTACT INFORMATION		
Name, Title	Phone No.	Email Address
Todd Thomas – Regulatory Affairs Manager	314-229-5091	Todd.Thomas@altana.com
Mark Grisham – Head of Safety and Regulatory Affairs	314-410-8990	Mark.Grisham@altana.com

FACILITY OVERVIEW

Elantas PDG, Inc. (Elantas) develops and manufactures specialty polymers for application in the electrical and electronic industries. These polymers are used as electrical insulation in various household appliances, heavy-duty electrical equipment, and for automotive applications. The facility has been in business since 1919 and has 170 employees. The facility operates 24 hours per day and 5 days per week.

According to the Title V permit, issued by the Missouri Department of Natural Resources, the facility is subject to the following regulations and standards subject to review during this inspection (Table 2).

Table 2. APPLICABLE PERMIT CONDITIONS, REGULATIONS AND STANDARDS	
Code of Federal Regulation	Standard Name
40 CFR Part 63	Subpart FFFF National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (MACT 4F)
40 CFR Part 63	Subpart HHHHH National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing (MACT 5H)
Title V Permit	Conditions I and II

The permit is attached as **Appendix A**.

In the permit, Permit Conditions I and II for the Thermal Oxidizer Group require the exhaust streams of the Thermal Oxidizer Group units to be vented to the regenerative thermal oxidizer (RTO) at all times except during start-up, shut down, and malfunction and that the RTO's average chamber temperature operate above 1600 degrees Fahrenheit (F°) averaged over one-hour block periods. Condition I also includes monitoring and recordkeeping requirements for the RTO average chamber temperature. The RTO is used to control HAP emissions from the units.

Other permit conditions relating to the emissions of HAPs and VOCs include requirements for various process tanks and mixers to be covered when operating, routine cover inspections, recordkeeping requirements to track VOC emissions from tanks, limits on vapor pressures of stored chemicals, tank inspections, and a leak detection and repair (LDAR) program.

FACILITY OPERATIONS SUMMARY

The bulk of production takes place in Building 39 (B3900 on the map in **Appendix B**). Building 51 (B5100) contains reactors and thinning tanks used to make resins. The processes in Building 51 are covered by MACT 4F. Building 65 (B6500) contains process tanks used to blend existing products. The processes in Building 65 are covered by MACT 5H. Buildings 34 and 45 (B3400 and B4500, respectively) are used to make epoxies that do not contain HAPs or VOCs. There are two main tank farms, referred to as TF51 (located on the East side of the facility) and TF53 (located in the middle of the facility), that provide feedstock for the process buildings. Each of the areas listed above, aside from Buildings 34 and 45, were of interest during the inspection due to their potential as a source of fugitive VOCs.

FIELD ACTIVITIES SUMMARY

I arrived at the facility on September 7, 2023, at 9:18 a.m. and completed a drive by surveillance inspection. I did not observe visible emissions. I made entry at the visitor entrance at 9:25 a.m. and introduced myself, presented my credentials, and provided my business card to Mr. Todd Thomas and Mr. Mark Grisham. I watched the facility safety video during the sign-in process before entering the main building. I conducted an opening conference during which I explained that the purpose of the visit was to conduct an inspection to determine compliance with the CAA, specifically, to determine compliance with the regulations and standards listed in Table 2. I explained that after asking for some general business information, I would observe work practices, process units, emission units, control equipment and review associated records demonstrating compliance with the permit and inspect the facility for fugitive VOC emissions using a forward looking infrared (FLIR) camera. I explained to Mr. Grisham that the facility could make a claim of business confidentiality and provided them with a Confidential Business Information form (**Appendix C**). Mr. Grisham did not make a claim of confidentiality.

After the opening conference, I requested a facility map and process flow diagrams. I was provided a map and Messrs. Thomas and Grisham explained to me the general layout of the facility.

I was given a facility tour by Messrs. Thomas and Grisham. I wore a hard hat, steel toed boots, safety glasses, and ear plugs during the facility tour. I used a FLIR camera to search for potential sources of fugitive VOC emissions at the site. Tank 63 was identified as having evidence of emissions to the air. For more information on this leak and the use of the FLIR camera, see the Measurement Activities section below. I also used a digital camera to photograph various mixers and process tanks in the production buildings to document compliance with applicable permit requirements. The Digital Image Log is included as **Appendix D**. The site visit consisted of observing the two tank farms (TF51 and TF53), and the five production buildings (B3900, B5100, B6500, B4500, and B3400).

During the inspection, I was informed that no condensers or heat exchangers are used as control devices and that the evaporative thermal oxidizer is no longer operated. I was also informed that for tank VOC emission tracking, the inputs to calculate VOC emissions from the tanks are logged daily and that Trinity Consulting is contracted to calculate the VOC emissions using those records on a yearly basis. While onsite, I reviewed tank and cover inspection records.

I conducted a closing conference with Messrs. Thomas and Grisham. I provided them with copies of the confidential business information form and a receipt for documents (**Appendix E**).

I shared a OneDrive folder, shortly after the site visit, with Mr. Thomas to allow him to provide large file size documents demonstrating compliance with the permit requirements mentioned in the Facility Overview section. Mr. Thomas provided documentation relating to the RTO maintenance activity logs, RTO temperature logs, Safety Data Sheets for the contents of the tank with VOC emissions, tank VOC emission records, and LDAR reports.

I received RTO bypass programming documentation from Mr. Thomas via a shared OneDrive folder on September 13, 2023.

Measurement Activities

I conducted fugitive VOC screening using a FLIR camera during the onsite inspection. I first used the FLIR camera to inspect Tank Farm 51. I observed Tank 63 to be leaking via the FLIR. Video number 1 in the Digital Video Log (**Appendix F**) shows Tank 63 emissions. I was informed that the tank contained solvent naphtha at ambient pressure. The tank contents were identified by the facility and not verified via sampling during the inspection. Next, I observed the tanks in Tank Farm 53 and did not identify any emissions. After the tank farms, I used the FLIR to observe the exhaust of the RTO. The video for this can be seen in video number 2 in the Digital Video log.

All environmental measurement activities were performed in accordance with the EPA Region 7 quality system except that the time and date were not set in the FLIR camera when it was turned on.

Table 3 summarizes field measurement activities.

Table 3. FIELD MEASUREMENT ACTIVITIES		
Date(s) and Time	Method and/or Procedure ¹ , and Equipment	Measurer Name
September 7, 2023 10:20 – 11:45	Region 7 procedure: SOP 2318.09B Equipment: FLIR, Model No. GF320, and Serial No. 44401969	Christopher Appier
¹ The current version of each procedure, at the time of the investigation, was followed.		

INVESTIGATION OBSERVATIONS AND POTENTIAL FINDINGS

Site conditions and activities were documented in field records. All photographs are attached as **Appendix D** and FLIR digital videos as **Appendix F**.

These observations are not final compliance determinations. The EPA Region 7 Air Branch case review team will make the final compliance determinations based on its review of this report and other technical, regulatory, and facility information.

I observed that the facility conducts LDAR inspections and performs repairs according to permitted requirements.

I reviewed the cover inspection record spreadsheets onsite and they appeared to be well organized and complete.

I reviewed the tank inspections reports onsite and they appeared to meet the permitted requirements.

During the onsite portion of the inspection, I observed that all tanks and mixers had their covers installed when they were not empty.

I observed that the RTO average chamber temperature was generally kept above the permitted minimum except during periods of startup, shutdown, and malfunction.

I observed that Tank 63 appeared to be releasing emissions to the atmosphere. The tank was claimed to contain a solvent naphtha.

End of report.



United States Environmental Protection Agency – Region 7

Digital Image Log

1. Facility Name: Elantas PDG, Inc. 2. FRS #: 110000441889		3. Inspector Name: Christopher Appier		
4. Photographer (if Different):		5. Date of Inspection: September 7, 2023		
6. Street Address of Digital Images: 5200 N Second St		7. City: St. Louis	8. State: MO	9. Zip: 63147
10. Image Numbers: 16		11. File Name: IR_Attachment D_Photo Log_FY23_MO_Elantas PDG		
Weather: at 11:00 AM				
Temperature	Humidity	Wind Direction	Wind Speed	Sky Condition
70 F	70 %	NW	8 mph	Slightly cloudy

Digital Image Number	File Name	Description	Date and Time Digital Image Taken
1	IMG_0081.JPG	T6509 Tank, which was empty and away from its mixer and cover (facing Northeast)	2023:09:07 11:13:58
2	IMG_0082.JPG	T6509 Mixer and cover (facing East)	2023:09:07 11:14:11
3	IMG_0083.JPG	DA-350 de-aerating mixer with the cover on (facing West)	2023:09:07 11:19:30
4	IMG_0084.JPG	DA-15 de-aerating mixer with the cover on (facing Northeast)	2023:09:07 11:21:07
5	IMG_0085.JPG	45-1 mixer, which was empty and its associated emission collection system (facing Southwest)	2023:09:07 11:22:20
6	IMG_0086.JPG	DA-5 de-aerating mixer with the cover on (facing Northeast)	2023:09:07 11:23:29
7	IMG_0087.JPG	DA-110 de-aerating mixer with the cover on (facing West)	2023:09:07 11:25:08
8	IMG_0088.JPG	Ribbon mixer with the cover on (facing Northwest)	2023:09:07 11:26:51
9	IMG_0089.JPG	DA-600 de-aerating mixer with the cover on (facing Southeast)	2023:09:07 11:28:46
10	IMG_0090.JPG	T484 mixer (facing Southwest)	2023:09:07 11:29:29
11	IMG_0091.JPG	Dough mixer, which was empty and the associated emission collection system (facing Northeast)	2023:09:07 11:30:33
12	IMG_0092.JPG	DA-55 de-aerating mixer not in use (facing West)	2023:09:07 11:32:24
13	IMG_0093.JPG	QS-800 mixer with the cover on (facing Northeast)	2023:09:07 11:32:59
14	IMG_0094.JPG	DA-220 de-aerating mixer with the cover on (facing West)	2023:09:07 11:33:16
15	IMG_0095.JPG	EM-600 mixer with the cover on (facing Northwest)	2023:09:07 11:33:41
16	IMG_0096.JPG	DA-900 de-aerating mixer with the cover on (facing North)	2023:09:07 11:34:58

Number	Photo
1	<div>A photograph of a large, blue, cylindrical industrial tank, identified by the label 'T6509' in blue paint. The tank is mounted on a metal frame with four casters. It is situated in a complex industrial environment with various pipes, valves, and other equipment visible in the background. A large, silver, corrugated metal tank is visible to the left, and a motorized unit is to the right. The floor is concrete.</div> <div><p>T6509 Tank, which was empty and away from its mixer and cover (facing Northeast)</p></div>

2



T6509 Mixer and cover (facing East)



DA-350 de-aerating mixer with the cover on (facing West)

4



DA-15 de-aerating mixer with the cover on (facing Northeast)

5



45-1 mixer, which was empty and its associated emission collection system (facing Southwest)

6



DA-5 de-aerating mixer with the cover on (facing Northeast)

7



DA-110 de-aerating mixer with the cover on (facing West)



Ribbon mixer with the cover on (facing Northwest)



DA-600 de-aerating mixer with the cover on (facing Southeast)

10



T484 mixer (facing Southwest)



Dough mixer, which was empty and the associated emission collection system (facing Northeast)

12



DA-55 de-aerating mixer not in use (facing West)

13



QS-800 mixer with the cover on (facing Northeast)

14



DA-220 de-aerating mixer with the cover on (facing West)

15



EM-600 mixer with the cover on (facing Northwest)

16



DA-900 de-aerating mixer with the cover on (facing North)

No changes were made to the original image files